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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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JAY H MAIOLI
COOPER & DUNHAM
1185 AVENUE OF THE AMERICAS
NEW YORK, NY 10036

EXAMINER

HARPER, KEVIN C

ART UNIT PAPER NUMBER

2666

DATE MAILED: 03/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/403,312

Applicant(s)

FUKUDA, KUNIO

Examiner

Kevin C. Harper

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 December 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 2-4,7-9,11-13,16-18,21-23,25-29,31,32,38-40,43-45 and 48-50 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-4,7-9,11-13,16-18,21-23,25-29,31,32,38-40,43-45 and 48-50 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 07/00.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on December 10, 2004 has been entered.

Response to Arguments

Applicant's arguments, filed December 10, 2004, with respect to the rejection of the pending claims have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new grounds of rejection is made in view of Uchida et al. (US 5,805,581) in view of Gitlin et al. (US 6,018,258).

Claim Objections

1. Claims 2 (6th line from last) and 11 (7th line from last) are objected to because "using m units of subcarriers and the" should be --using m units of subcarriers or the---. Appropriate correction is required.
2. Claims 2-4, 7-9, 11-13, 16-18, 21-23, 25-29, 31-32, 43-45 and 48-50 are objected to because in the independent claims, "signal after the discriminating" in the last (or penultimate) line should be --signal before the discriminating--. In fig. 11 of the specification, the error detection comes before the discriminating circuit.

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3. Claims 2-4, 7-9, 11-13, 16-18, 21-23, 25-29, 31-32, 43-45 and 48-50 are objected to because “the multicarrier signal” and/or “the single carrier signal” refer(s) to both a transmission from a base station and a transmission from a terminal device. In the specification, the same signal is not transmitted from the base station and from the terminal devices (fig. 7; note: a unique signal is transmitted during each time slot by either a terminal device or the base station).

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 2-4, 7-9, 11-13, 16-18, 21-23, 27-29, 38-40, 43-45 and 48-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uchida (US 5,805,581) in view of Gitlin (US 6,018,258).

4. Regarding claims 2, 7, 11, 16, 21, 27, 38-39 and 43, Uchida discloses a communication system (fig. 1) comprising a base station (item 6) having a transmission means for carrying out a downlink communication to a terminal device (item 5) using a single signal of a multicarrier signal (fig. 2, item 24B; col. 15, lines 31-32) and a receiving means for receiving a single carrier signal of a multicarrier signal transmitted from a terminal device and demodulating the data (fig. 7, item 53). The system comprises a first terminal device having a transmission means for using a single carrier signal of a multicarrier signal (note: TDMA) and a receiving means for receiving the single carrier of a multicarrier signal and demodulating the data (fig. 3, item 32). The system also comprises a second terminal device having transmission means for carrying out an uplink

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communication using a single carrier (fig. 2, item 23A; note: CDMA) and a receiving means for receiving a multicarrier signal from the base station having the data dispersed to several subcarriers (fig. 2, items 22A and 25A; note: the signal transmitted from the base station is a multicarrier signal -- fig. 7, items 44b-46b and 47) and demodulating the received data (fig. 3, item 33). The base station includes an error detecting means (fig. 4, item 36; col. 15, lines 46-49 and 60-63) for performing error detection on the received signal after the discriminating means (fig. 4, item 30).

5. However, Uchida does not disclose transmitting several carriers of a multicarrier signal for one terminal device. Gitlin discloses using a multicarrier signal for one terminal device (fig. 5, area F) during one time period. Therefore, it would have been obvious to one skilled in the art at the time the invention was made for a terminal device to transmit using several carriers in the invention of Uchida in order to accommodate high bandwidth users in the communication system. Further regarding claims 7, 11, 21, 27, 43 and 48, the combination of Uchida in view of Gitlin provides several communication terminals for using a carrier or several carriers in communication.

6. Regarding claims 3, 8, 12, 17, 22 and 28, in Uchida a terminal device includes a carrier control means for controlling a transmission/receive means (fig. 3, item 30) to carry out the communication using a predetermined subcarrier of several subcarriers (fig. 2, CDMA; note: CDMA transmission/reception on a select subcarrier).

7. Regarding claims 4, 9, 13, 18, 23, 29, 40, 44-45 and 49-50 in Uchida the base station includes slot timing control means (fig. 4, item 30; fig. 6, item 54) for controlling the transmission/ reception means to carry out the communication within a frame having several

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time slots (fig. 2, T1-T4 or R1-R4). A terminal device includes transmission/reception control means (fig. 3, item 30) for controlling the transmission/reception to carry out the communication at an appropriate slot timing set within a frame (fig. 2, R1-R4 or T1-T4; note: CDMA and TDMA communication times are at different periods within the frame; col. 15, lines 4-19).

Claims 25-26 and 31-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uchida in view of Gitlin as applied to claims 21 or 27 above, and further in view of Igarashi (US 5,940,143).

8. Regarding claims 25-26 and 31-32, Uchida in view of Gitlin does not disclose a passband filter. Igarashi discloses a controllable passband filter (fig. 1, item 20; col. 5, lines 55-58). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to have a passband filter for selecting a reception frequency or frequencies in the invention of Uchida in view of Gitlin in order to avoid receiving unwanted signals outside a desired reception frequency band (Igarashi, col. 5, lines 58-62).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Harper whose telephone number is 571-272-3166. The examiner can normally be reached weekdays from 11:30 AM to 7:00 PM ET.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema S. Rao, can be reached at 571-272-3174. The centralized fax number for the Patent Office is 703-872-9306.


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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications associated with a customer number is available through Private PAIR only. For more information about the PAIR system, see portal.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Kevin C. Harper

March 21, 2005


SEEMA S. RAO 3/23/05
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800